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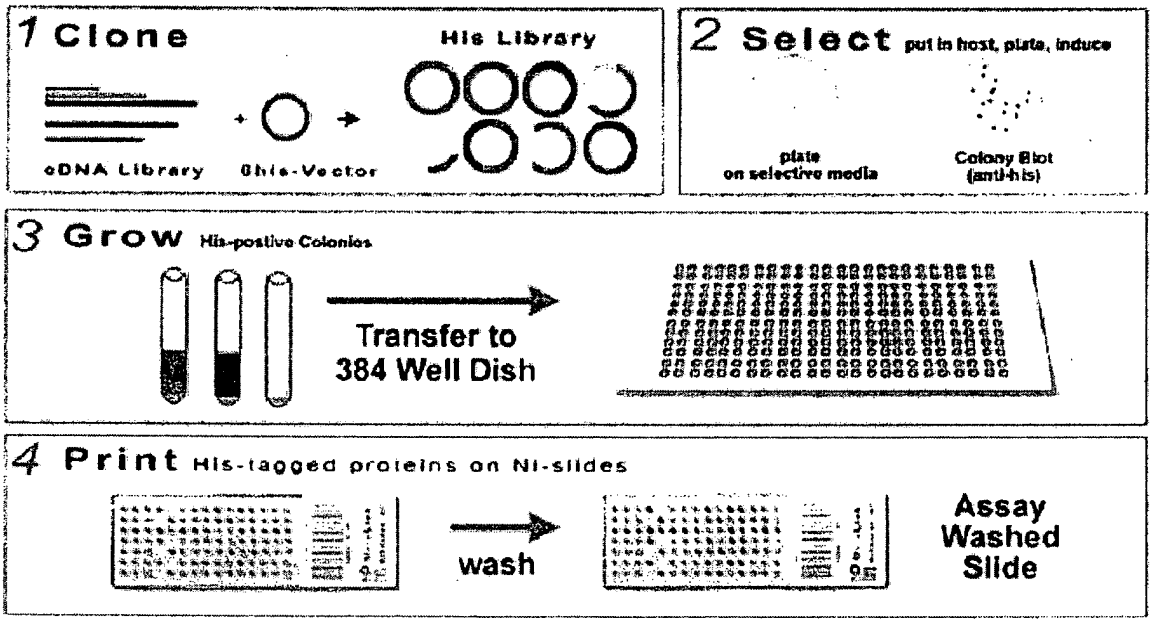

1 Clone
His Library
cDNA Library
6his-Vector
2 Select put in host, plate, induce
plate
on selective media
Colony Blot
(anti-his)
3 Grow His-postive Colonies
Transfer to
384 Well Dish
4 Print His-tagged proteins on Ni-slides
wash
Assay
Washed
Slide

Figure 1

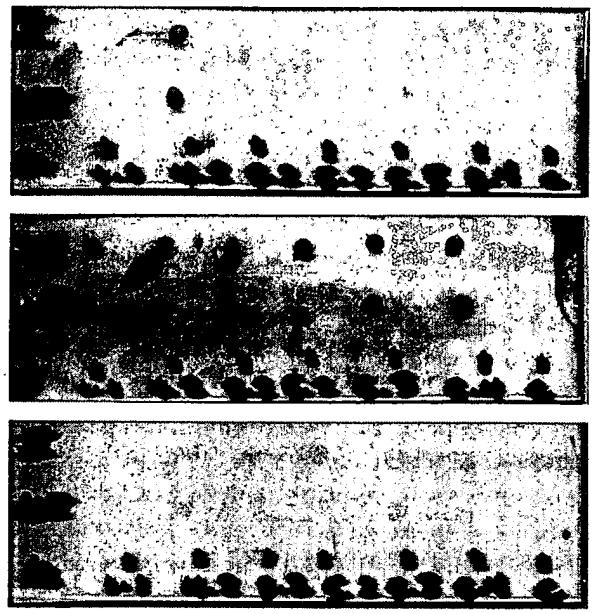


FIGURE *Y*. EXAMPLE TESTING 6XHIS-TAGGED PROTEINS.

2

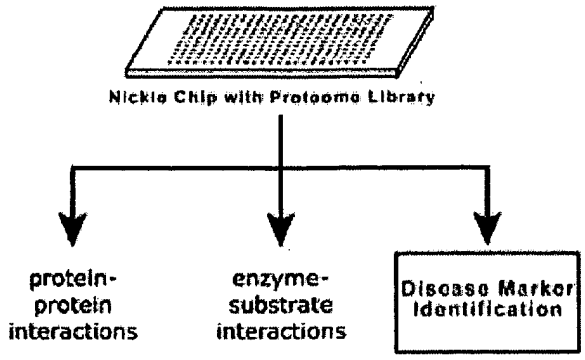

Nickle Chip with Protoome Library
protein-protein interactions
enzyme-substrate interactions
Disease Marker Identification

Figure 3

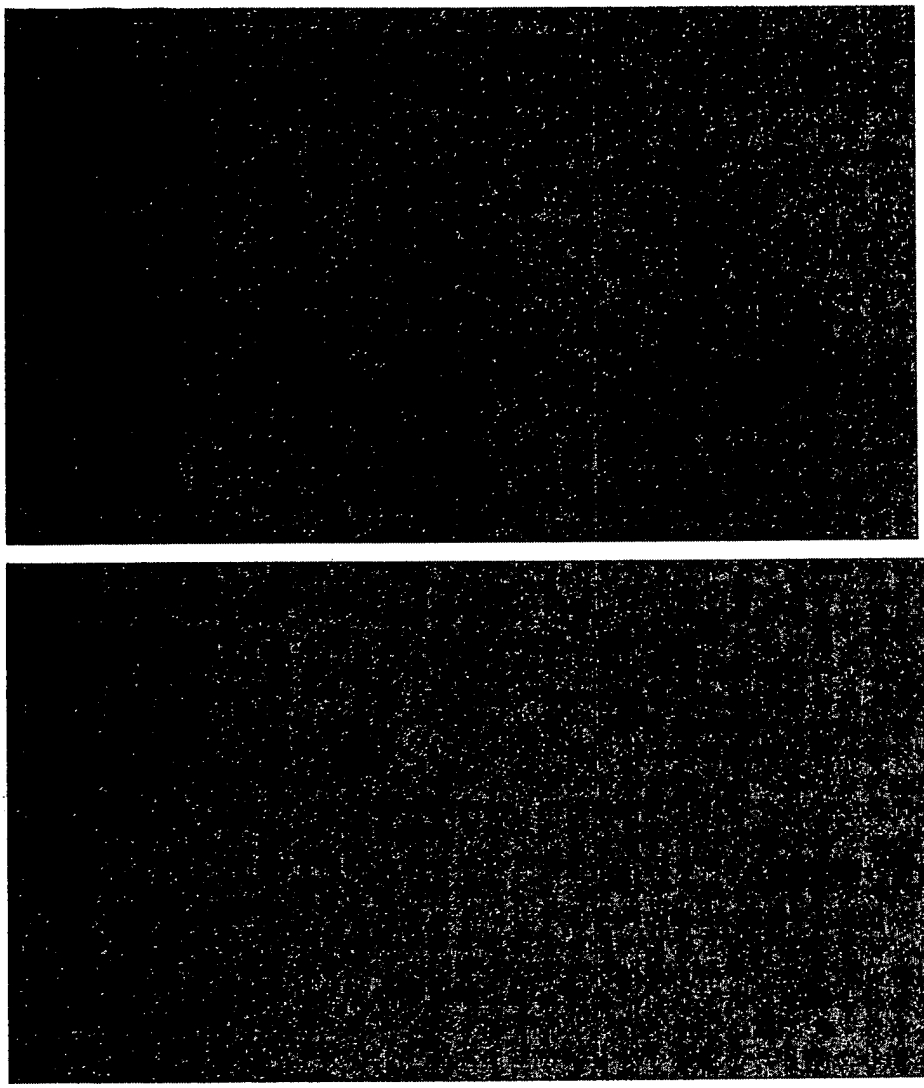


Figure 4

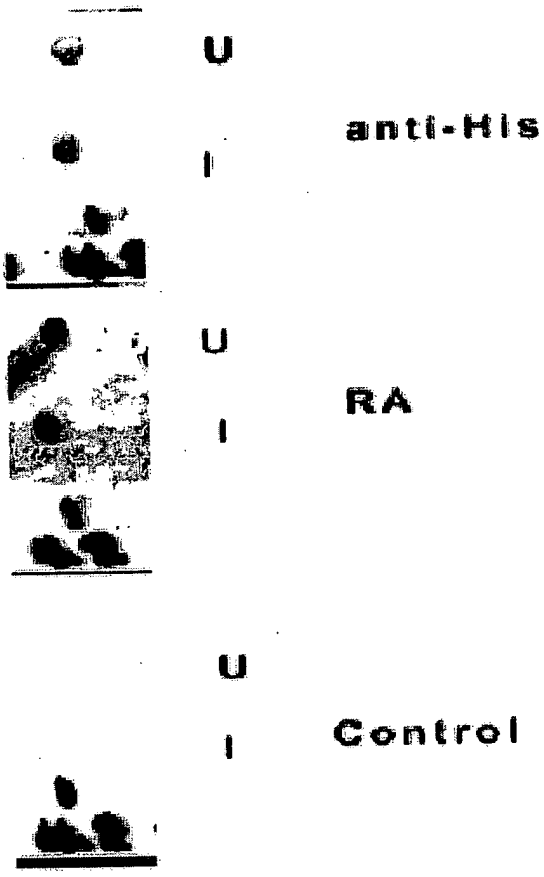


Figure 5

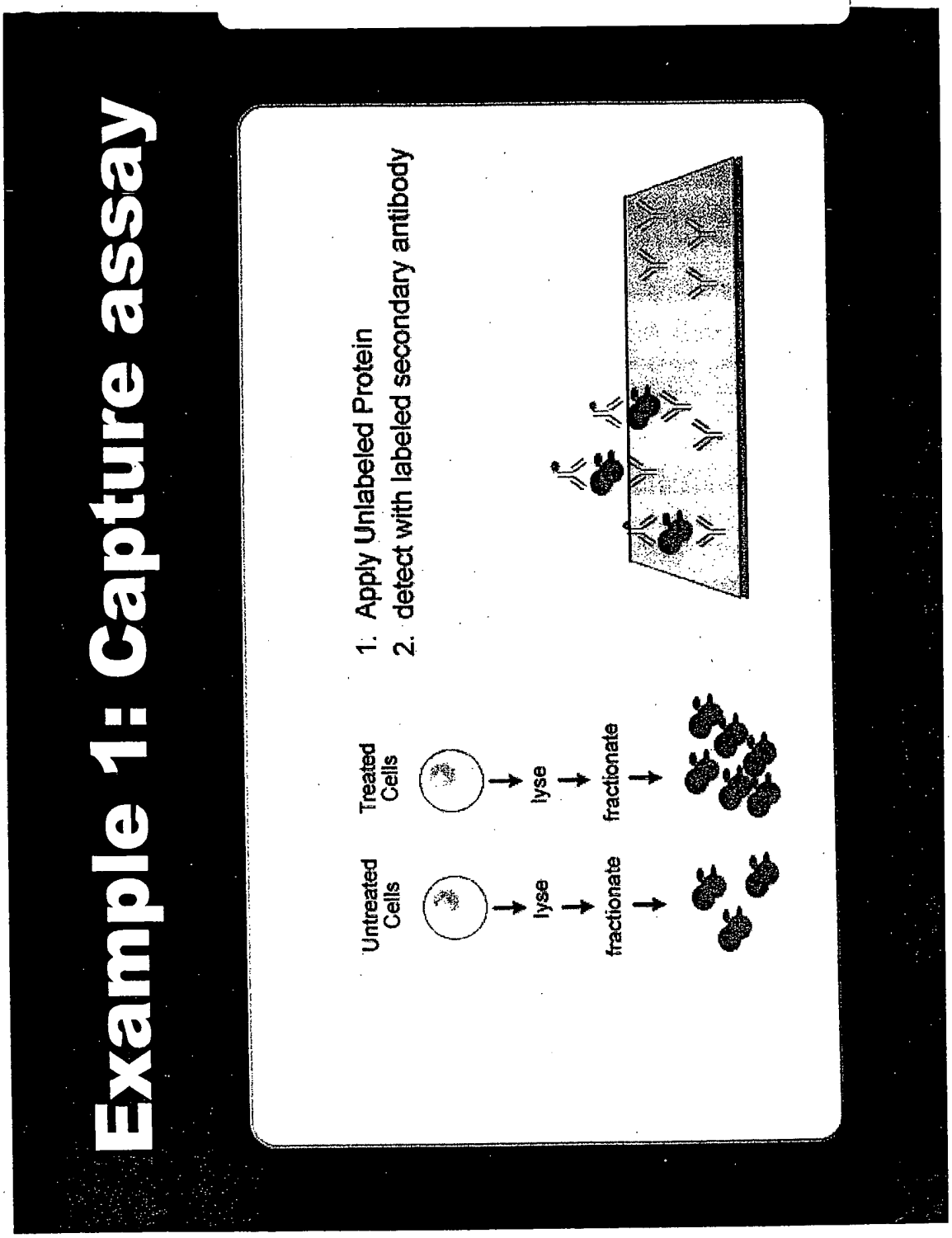

Example 1: Capture assay
1. Apply Unlabeled Protein
2. detect with labeled secondary antibody
Untreated Cells
lyse
fractionate
Treated Cells
lyse
fractionate

Figure 6A

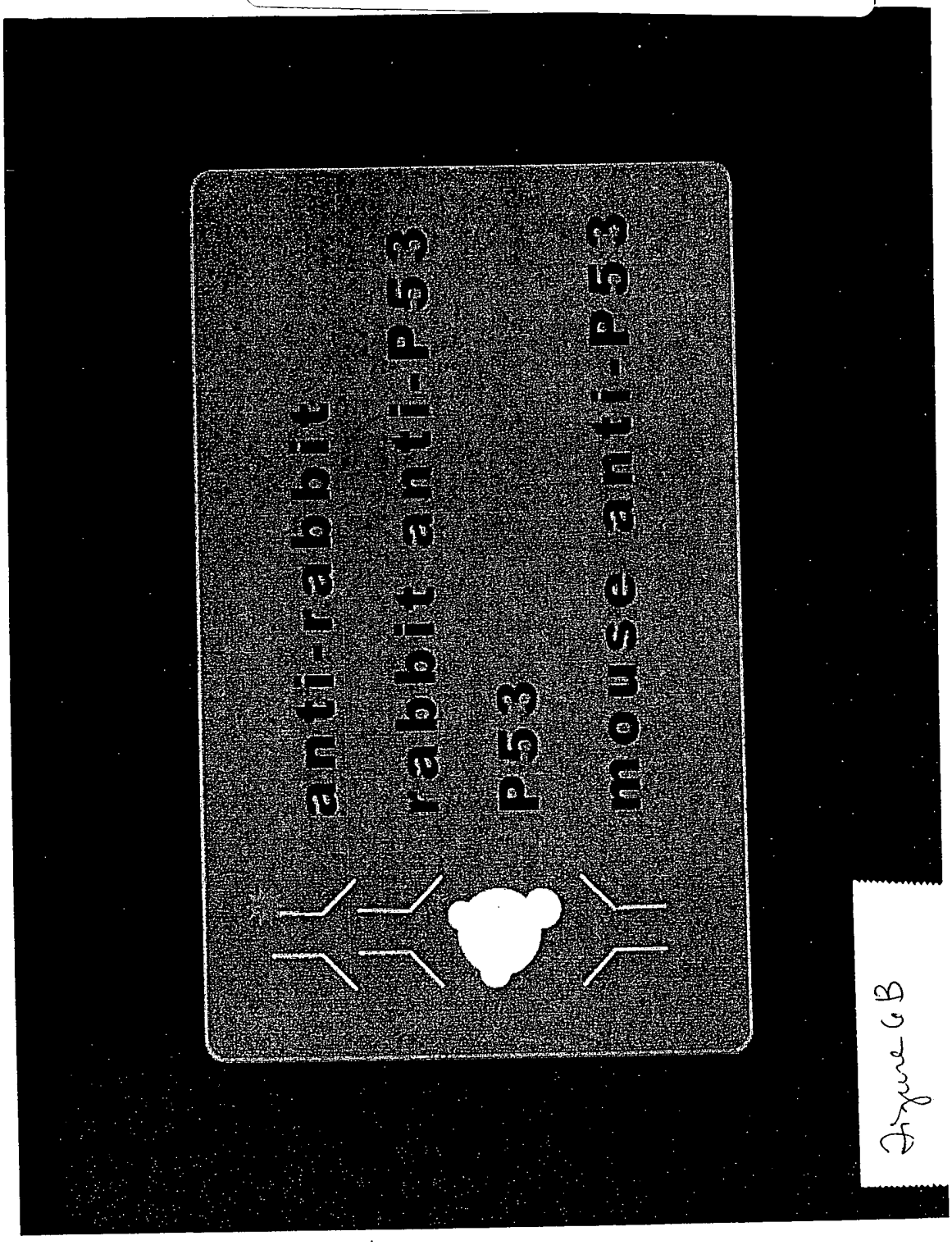

anti-rabbit p53
rabbit anti-p53
P53
mouse anti-p53
anti-mouse p53

Figure 6B

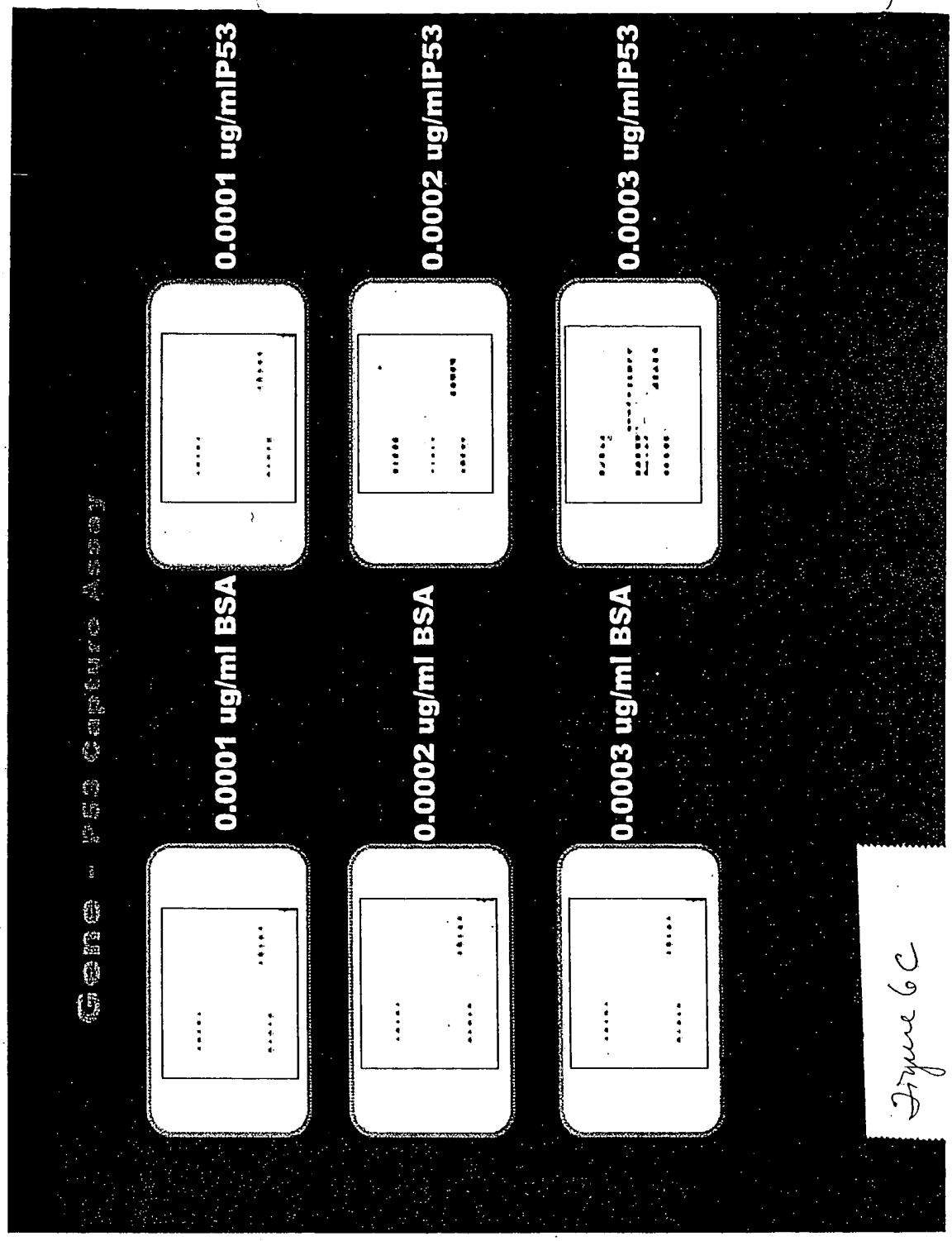

Gro-p53 Capture Assay
0.0001 ug/mlP53
0.0002 ug/mlP53
0.0003 ug/mlP53
0.0001 ug/ml BSA
0.0002 ug/ml BSA
0.0003 ug/ml BSA

Figure 6C

Example 2:
Western Blot Type Assay

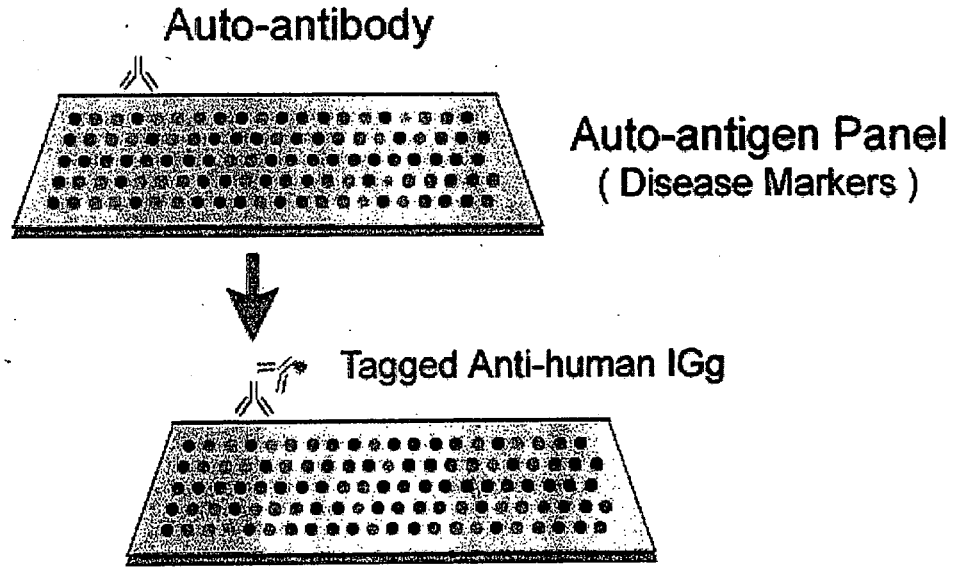


Figure 7A

Experiment in Progress: Identify Autoimmune disease specific profiles based on hundreds → thousands of antigens

Autoimmune Disease Asssay Antigens

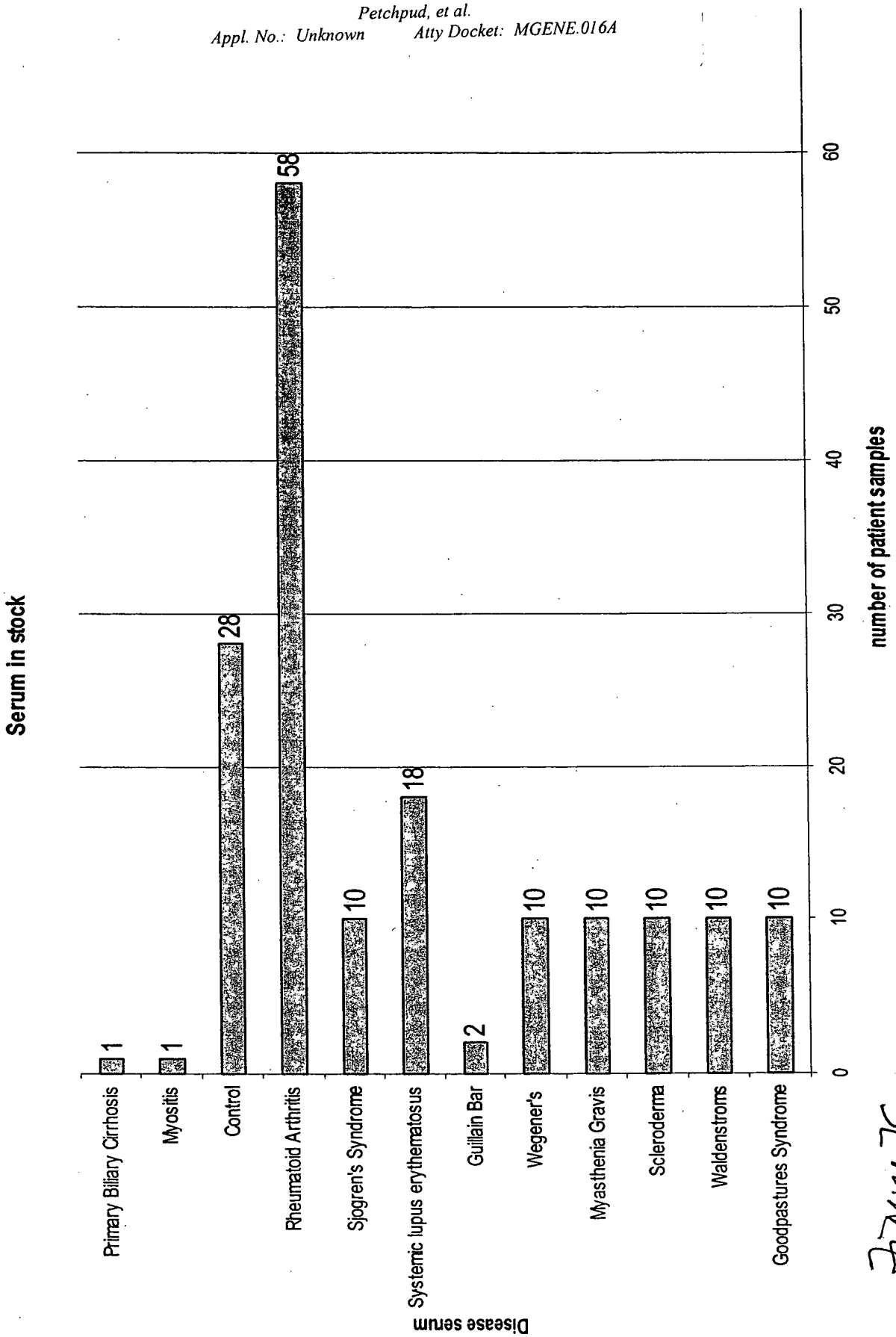
- SSB
- Sm
- Smith
- pANCA
- myeloperoxidase
- neutrophil cytoplasmic antigen
- cANCA
- proteinase 3
- Jo-1
- histidyl tRNA synthetase
- ApoH

•Apolipoprotein H
•Scl-70
•DNA topoisomerase
•Sm/RNP
•Scl-70
•Mitochondial Antigen
•Plasmid DNA
•proliferating Cell nuclear antigen
•SSA
•Clq
•SRC
•Smith/RNP complex antigen
•Whole Histone
•Histone F2b
•Histone F2a2
•Histone F3 and F2a1
•Hisistone F1

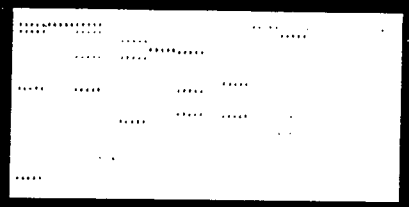
•Brain fraction 1
•Brain Fraction 16
•Thymus fraction 15
•Thymus fraction16
•Lymph fraction 6
•Lymph fraction16
•Spleen fraction 13
•Kidney fraction 15
•Thymus Fraction 16
•Lymph Fraction 6
•Lymph Fraction 16
•Spleen Fraction 13
•Kidney Fraction 15

RA, Kidney cDNA Library recombinant proteins

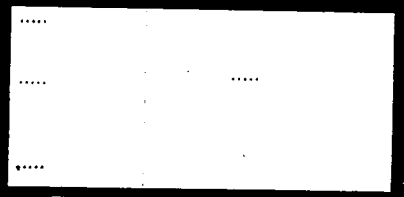
Figure 7B


Serum in stock
Primary Biliary Cirrhosis
Mycositis
Control
Rheumatoid Arthritis
Sjogren's Syndrome
Systemic lupus erythematosus
Guillain Bar
Wegener's
Myasthenia Gravis
Scleroderma
Waldenstroms
Goodpastures Syndrome
1
1
28
58
10
18
2
10
10
10
10
10
Disease serum
0
10
20
30
40
50
60
number of patient samples

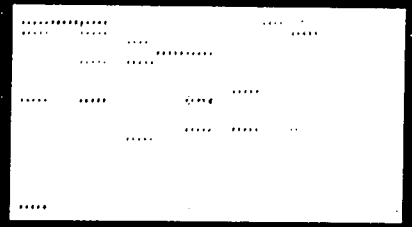
Lupus Titration



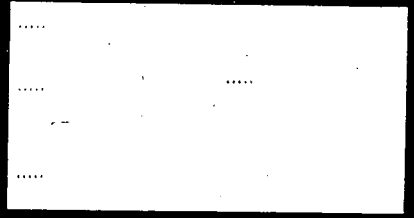
S.L.E. 1:100 titer



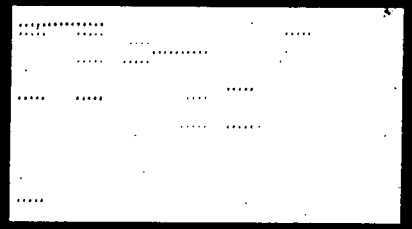
Control 1:100 titer



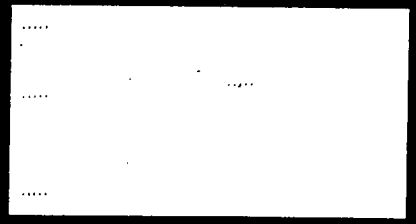
S.L.E. 1:200 titer



Control 1:200 titer



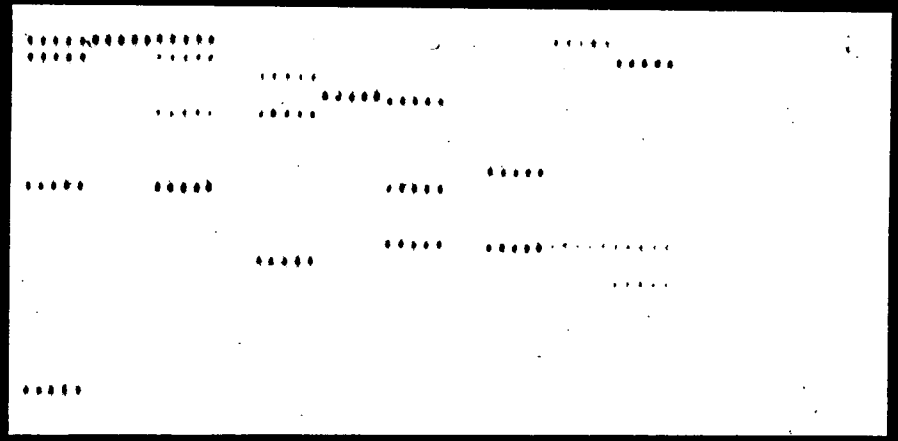
S.L.E. 1:500 titer



Control 1:500 titer

Figure 7D

S.L.E. 1:100 titer with corresponding markers



A= Secondary antibody
B= SSA (Sjogren syndrome type A antigen)
C= SSB (Sjogren syndrome type B antigen)
D= SRC (Smith/ribonucleoprotein Complex)
E= MIT (mitochondrial antigen)
F= RAG (recombination activating Protein)
G= whole histone
I= F2A2
J= H2b

Control 1:100 titer

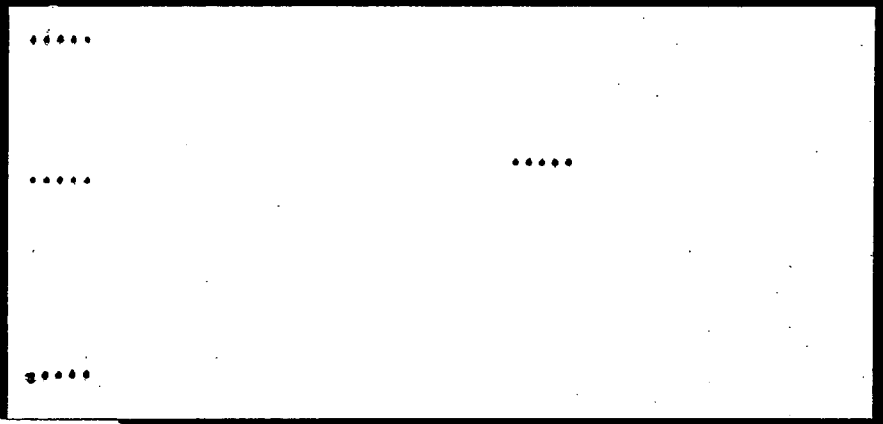


Figure 7E

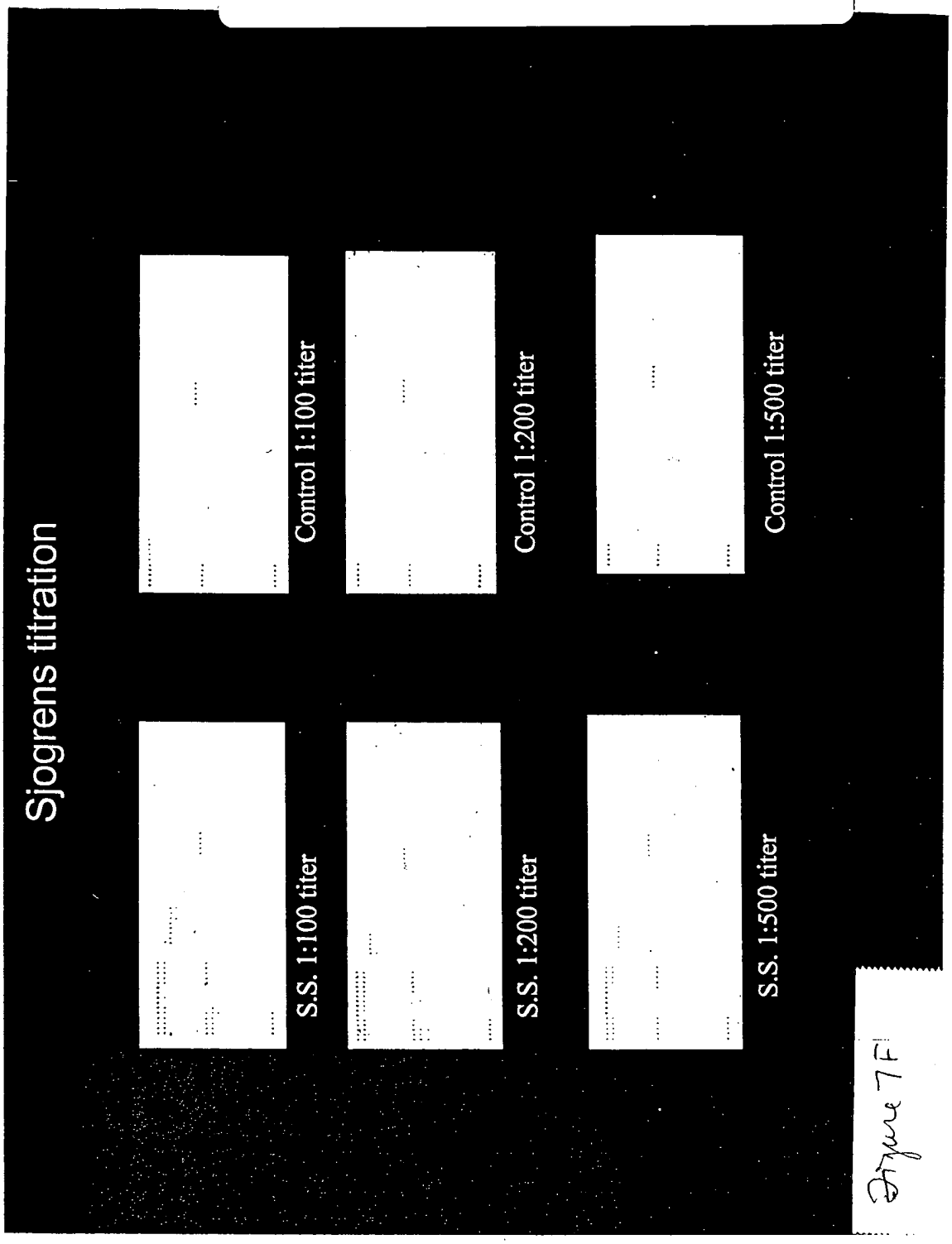
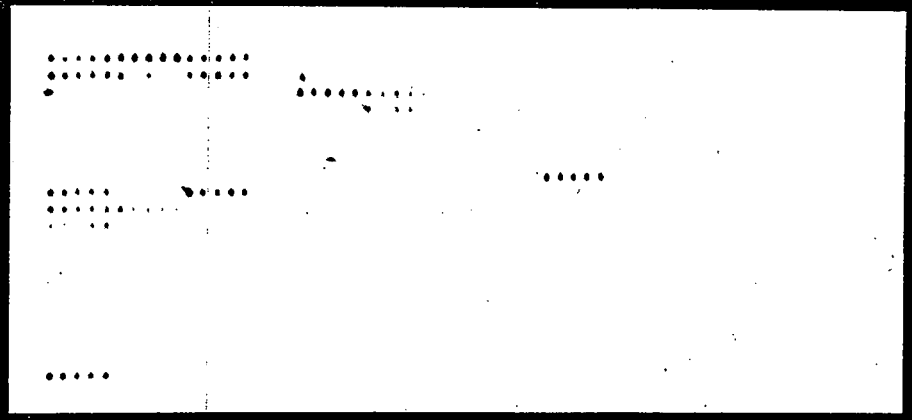

Sjogrens titration
Control 1:100 titer
Control 1:200 titer
Control 1:500 titer
S.S. 1:100 titer
S.S. 1:200 titer
S.S. 1:500 titer

Figure 7F

S.S. 1:100 titer



A= secondary antibody
B=SSA (Sjogren syndrome type A Antigen)
C=SSB (Sjogren syndrome type B Antigen)
E= MIT (mitochondrial antigen)

Control 1:100 titer

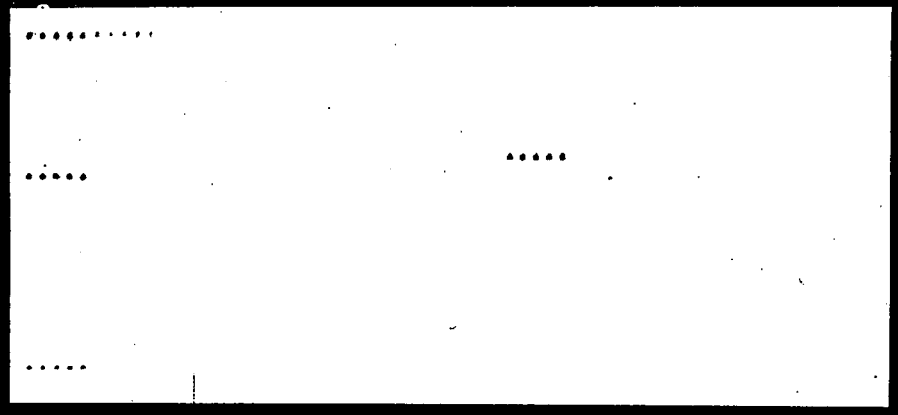


Figure 76